
DFIG MINUTES

#12---1/20/2015

Discussed within meeting

- All our items were moved to the lab for simulation
- Tentative work plan
 - Team thing
 - Deadlines
 - Gant chart – work for us – main ideas – organization – what we want done
 - Roles on whose doing what

Items to address

- Is there a ship to shore connector down in the lab?
- Need to talk to mike B about control
 - Might need to help
- Briefing for work plan next week, what we're going to do with mike
 - NEXT WEEK with Dr. Hess
 - Mini form of design review – no formal presentation
- Normann will do presentations 3:30-4:45 Outreach rooms (rm25-26) Tuesdays
 - Meeting right after in the same room?
- Logbook entry for personal and team goals
- Power Engineers are using RTDS a lot in march
 - Might need to re-organize the rack
 - *maybe a week before* - might be a good thing to watch
- Ask Aalap about help setting up the 411L
- **Come with questions next week for the documents.**
- **Refocus our goals**

DFIG MINUTES

#13

1/27/2015

Discussed within meeting

- Meeting with Mike B today for discussing what to do
 - He has a microcontroller – canned program to control?
 - What board is he using?
- Went over tentative work plan
- Power engineers want to use it week of feb 16th
 - We can use the 411L on the power grid.

Items to address

- Contact Alaap about the lab and the 411L
- Schedule a design review with Normann – preferably 10-13th
 - More Technical than the last one
 - Can either be presentation or technical discussion – we decide
 - Have to go to 1 design review this semester
- Work on RSCAD tonight – Tomorrow.

DFIG MINUTES

#14

2/4/2015

Discussed within meeting

- Need to Present at the Graduate Collic. March 12 – 3:30pm 30mins presentation.
- Mike is in 526 so we can ask questions if we have any for the protection
- We are in a holding pattern
 - Waiting for a meeting with Alaap
 - Waiting for design review with Normann
 - Will send out an email for meeting times – Thursday 9:30-10:30am
- Garret Stauffer – SEL 411 – might be another contact
 - stau1893@vandals.uidaho.edu

Items to address

- Send out email of meeting times
- Need to send a professional blurb about each member. Couple sentences, keep it simple.

DFIG MINUTES

#15

2/11/2015

Discussed within meeting

- Dr. Hess would like to see a rehearsal of our presentation.
 - Technical presentation
 - Short simple
 - Basics of a presentation
 - Progress of each aspect
 - TUESDAY
- Email Dr. Johnson about lab tour
- Schedule for future work
 - Plan to land
 - Detailed
 - Bring pictures and information
- Presentation at graduate coll.
 - What the project is
 - How we achieve it
 - What we did
 - We are the experts and present in an organized fashion
 - We can decide who/all present
 - Dr. Hess wants to see a rehearsal.
 - 35 minutes long.

Items to address

DFIG MINUTES

2/25/2015

Discussed within meeting

- Discussed the RSCAD model.
 - Might need some capacitors – inductors are fighting each other
 - Computation error in D/Q
- Need to debug the generated code
- Control model coded
- Need debugging software
 - Mike B has software?
 - How pins are assigned (input and output)

Items to address

- Cody will prepare expo documents here this week.
- Ppt. for 591
 - Look at what we've done
 - Defined originally
 - How we defined it
 - Steps we took to get the project done
 - How we understand it
 - Have a small amount of ppt, or a lot, doesn't matter.
 - 1ppt 1min
 - 30mins
- Send title – abstract (1 paragraph) – bio's to dr. li
- If we split it up – rehearse it later
- March 12th (Thursday)

DFIG MINUTES

3/4/2015

Discussed within meeting

- Snapshot in **afternoon 3:30pm Tuesday**
- Look at excitation for reactive power
 - Positive power into machine generating
 - Absorbing real power
 - Positive vs minus
 - Follow energy flow from system
 - Whats where
 - What kind of transformation
 - 208-690 armature resistance will go down a bit
 - Change of base – if we keep reactance – sbase might change
 - The values in pu will become more ideal as it gets larger
 - Keep 10hp gives us a different z in ohm, same in pu though
 - Don't change sbase if we need to
 - Depends on what Normann wants to see on the machine
- **Come in with a problem and proposal for the solution for 208 problem**
 - Reason why and let them make the decision
- Controls
 - Generated Code
 - Handed off to mike
 - Can program in the lab
 - Need pinout for ports on side of board
- **Presentation**
 - Background of generators
 - Audience won't know the background
 - Mike should be integral
 - Opportunity to get involved
 - Make mistakes in private**
 - EXPO TECHNICAL
 - 15mins for presentation 5 for questions

Items to address

- Send presentation to Dr. Hess
- Integrate mike into presentation
- Send Email to Normann today!!
 - Submit expo paperwork TODAY

DFIG MINUTES

3/11/2015

Discussed within meeting

- Presented our technical presentation to Dr. Hess and Dr. Li
- Discussed the RSCAD model
 - Discussed equations
 - Not getting same values as Rishabh

Items to address

- Submit Portfolio

DFIG MINUTES

3/25/2015

Discussed within meeting

- Good break?
- Alaap – made some progress in the Model
 - Getting ready to set up
- Hardware update?
 - Good to work together
 - Gains all set up
 - Matching on what we're seeing
 - Startup isn't an issue with hardware
 - Harder on software
 - Simulate in s.s
 - Still getting code adjusted
 - ABB works just fine
 - Homemade number will be issue –

- Various gains that will need to be set
 - Easier to see gain in RSCAD
- Coordination of gains
- **SOON – SOON—SOON**
- **Need to get a test procedure**
- **Get update**
 - Take a larger view of the machine to get new gains
 - Dr. Hess might have some value to adjust
 - Doesn't need to be perfect, CLOSE

Items to address

- **Get a testing procedure**
- **Look at stability**
 -

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DFIG MINUTES

4/1/2015

Discussed within meeting

- We discussed the wikipage
 - Minutes and agendas will be fixed – but at end of the year
- Got the PIC Kit 2
 - Interface and talking with microcontroller
 - Need to figure out specific syntax for the code
 - Might be able to look up – up to date libraries for the program
 - Blocks for Simulink
 - For the microcontroller
 - Blocks generate the c-code
- SEL wants equal emphasis put on the hardware and software
- Make sure we document it
 - What went good and bad
 - Procedures
- Went over RSCAD model
 - Setting VDC to constant and IDref to 0
 - Reduced currents
 - Down to 500A – not good but getting somewhere
 - VDC stays fixed
- Poster
 - Only put items that are important that *tells about the project*
 - Hide something
 - Show – car advert
 - How do we emphasis what is important and what is not
 - EXPO 2015 – for the date – hide it on the poster \$80+--+25
 - Doesn't have to show everything
 - For future students/people

Items to address

- 4/7 LOG BOOKS!

DFIG MINUTES

4/8/2015

Discussed within meeting

- Controls
 - Figured out how to talk to the pic 32!
 - Code is generated in the wrong format
 - Needing to figure out what portion of the Simulink code we want to put to the pic32
 - Block coder – there is no trial version
 - \$300
 - Trying to get syntax working correctly
 - Maybe better off trying to get a Simulink model of a 340
 - Work up and try and get it going
 - What parts of the controller to look at what part
 - BUILD IT UP
 - Build a 340 lab – smaller code
 - Transfer function
 - That has a exponential
 - What kind of code
 - 1/S for laplace
 - Start with Grid side converter
 - Put a battery or cap
 - Don't regulate a constant source
 - Set up the grid side first!
 - MIKE KNOWS about Simulink get him involved
 - NORMANN WANTS SOMETHING
 - RSCAD model
 - Check current polarities
- Presentations
 - 15mins with 5mins questions
 - Select best speaker
 - 1-2
 - Poster – Fast as much as we pay
 - 2 days usually
- Poster ready – MONDAY 20TH

- If we want our logbooks back we need to fetch them
- Normann wants to have a board to fire crowbar eventually
- Shift gears and get controls for grid side

Items to address

DFIG MINUTES

4/15/2015

Discussed within meeting

- We do want to see a 208V model
 - Can leave the line as 33kv for now, can change it to whatever later
 - Check rotor currents
 - Check with alaap for wind speed adjustment and gain adjustment
- Controls
 - Checking each blocks
 - Representation of each block
 - Working on C-Code to build into C-Code
 - Get current modulation *first* to see how that works
 - Synchronous reference frame
 - Frequency tracking
 - Get a synchronous circuit working
 - PWM
 - Parks Transformation – ABC – DQ
- Need to verify the outputs off the machine, some wires are missing...
- Calibration?
- GET SENSORS IN PLACE AND CODE IN FROM SENSORS
 - Help the next person on the group.

Items to address

- FINAL Documets
 - Get Poster done by Next Wednesday
 - Parce out design report meet Wednesday to see
 - Wiki page is close – agendas
 - Waveforms
- **BALLROOM PRESENTATION 10:20 FOR EXPO**

DFIG MINUTES

4/22/2015

Discussed within meeting

- Send Dr. Li the technical presentation (ppt)
- Let him look at the poster
 - We will start that tonight
- Cody has been working on his documentation of each Simulink block
 - Adding as an appendix
 - Maybe add the guide for the .dft as an appendix?
- For the microcontroller
 - Next group may want to get an A-D converter
- For the Simulink model
 - Everything is in the laplace domain
 - Use an A-D converter
 - We need the Z-domain
 - Sample it (A-D converter)
 - Then we can do computation in **Z-Domain**
 - Bilinear Transformation – easiest?
 - Then D-A converter
 - Output the information
- Tiras and Andy will be doing the technical presentation
 - Probably a good idea to get a large plat of the schematic
- Print PPT. on pages for the portfolio
- Add peer review

Items to address

- Submit logbook alongside our portfolio (submit a logbook eval form as well)
 -

DFIG MINUTES

4/22/2015

Discussed within meeting

- **BALLROOM PRESENTATION 10:20 FOR EXPO**
- Looked at the poster – good to go
- For the system –
 - Document what needs to be added to the physical DFIG
 - Meeting Thursday with CS guy
 - Told mike to look for a detailed schematic
 - Missing one microcontroller
 - Briefed on final deliverables
 - Meeting next week – schedule with arleen
 - Arrangements next week on how we give our final deliverables
 - Check to see what monitors we can grab.
 - Can set up at 2:30-5:00 for inside booth
- Documentation
 - Reports diagrams posters – everything
 - So we have a copy of everything
 - Txt file on how to run RSCAD

Items to address

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DFIG MINUTES

5/6/15

Discussed within meeting

- Deliverables
 - Give Poster To Greg to hang by model power grid
 - No Logbook
 - Portfolio
 - Report – hard copy to portfolio and electronic copy to wiki
 - Electronic deliverables – as well
 - Documented how to run the model
- Technical report
 - Andy's appendix
 - Hardware appendix
 - Snippet – where we are with Simulink
- Be concise with what other groups did
- Put poster and report on wiki page.